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ABSTRACT

To familiarize supervisors, interviewers, and employer relations personnel with U. S. Employment Service (USES) testing, the trainee's handbook cites five training objectives. They are. simplify understanding of tests, describe employment service tests, mention advantages and limitations, show how to determine need for tests, and describe a testing program. Seventeen pages are devoted to simple graphics and test forms to illustrate those objectives. One page describes the requirements for a test development study, and another discusses the USES grading system. Four and one-half pages comprise a review test with true-false, multiple-choice, and fill-in-the-blank sections. (AG)

ED 089138

# Introduction to
# EMPLOYMENT SERVICE TESTING

Employment Office Training Program Unit 41 Part B Trainee's Handbook

U.S. DEPARTMENT OF HEALTH
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1973
U.S. DEPARTMENT OF LABOR
MANPOWER ADMINISTRATION

CE 001 568

# Introduction to
# EMPLOYMENT SERVICE TESTING

Employment Office Training Program Unit 41 Part B Trainee's Handbook

1973
U.S. DEPARTMENT OF LABOR
Peter J. Brennan, Secretary
MANPOWER ADMINISTRATION

# OBJECTIVES OF TRAINING
## IN
## EMPLOYMENT SERVICE TESTING

1. Simplify Understanding of Tests
2. Describe Employment Service Tests
3. Mention Advantages and Limitations
4. Show How to Determine Need for Tests
5. Describe a Testing Program

# TESTS ARE SAMPLES OF AN APPLICANT'S BEHAVIOR

**TO TEST**

IRON ORE

BLOOD

SHORTHAND SKILL

**WE SAMPLE**

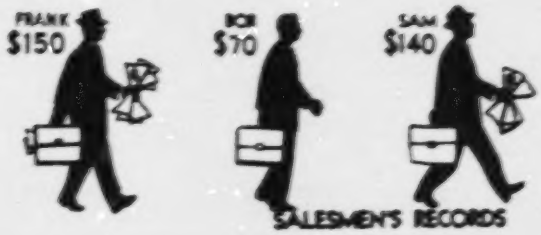
3 MINUTES OF APPLICANT TAKING SHORTHAND

# INDIVIDUALS DIFFER FROM EACH OTHER...

**PHYSICALLY....**

**IN LEARNING....**

**IN WORK....**



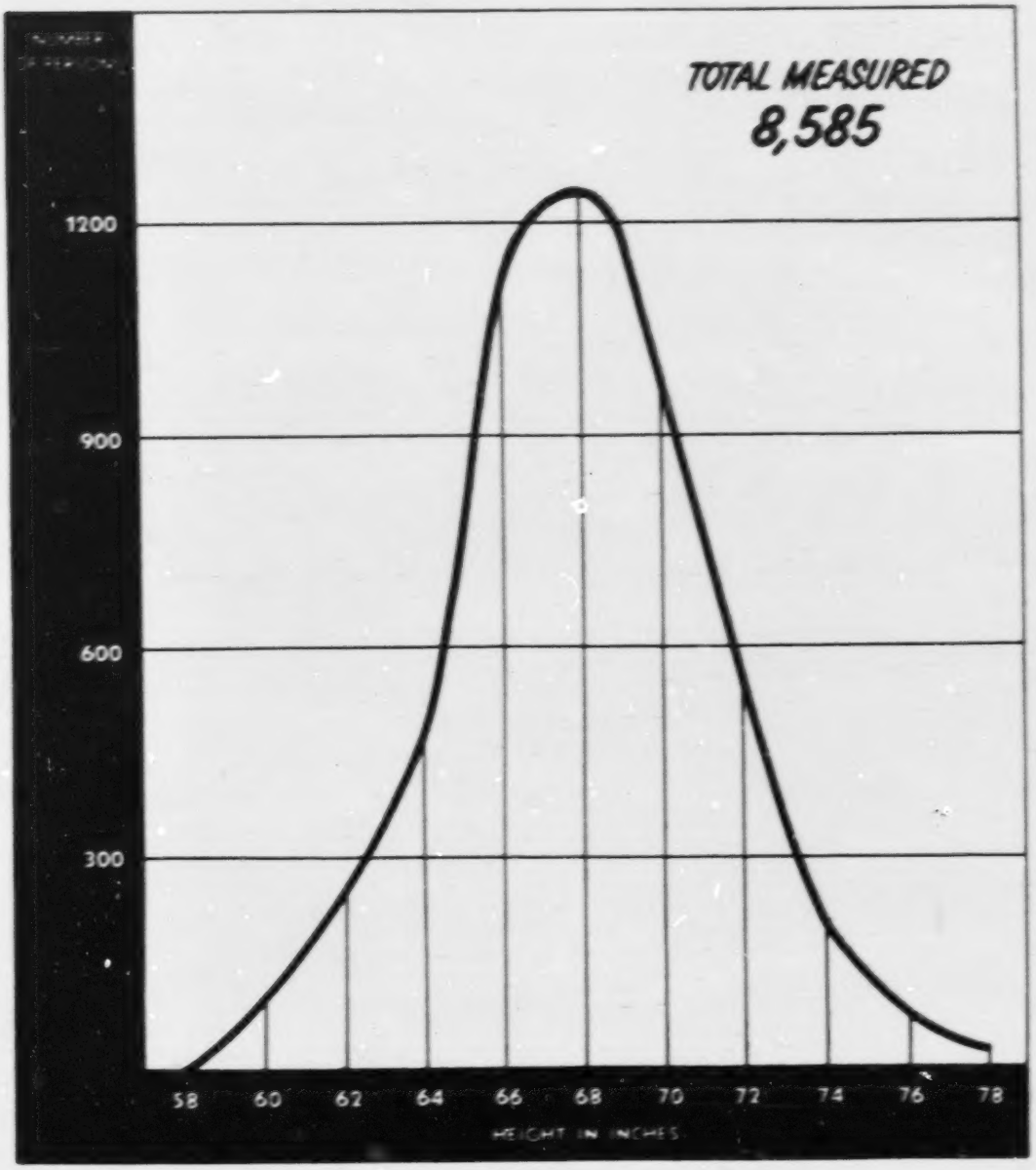

**IN TEST SCORES....**

# AN INDIVIDUAL WILL HAVE MORE OF SOME ABILITIES THAN OTHERS

## REPORT CARDS

## JOB SUCCESS

# CURVE OF NORMAL DISTRIBUTION



# DIFFERENCE BETWEEN APTITUDE AND PROFICIENCY TESTS

APTITUDE TEST

MEASURES:

POTENTIAL FOR ACQUIRING SKILL

---

PROFICIENCY TEST

MEASURES:

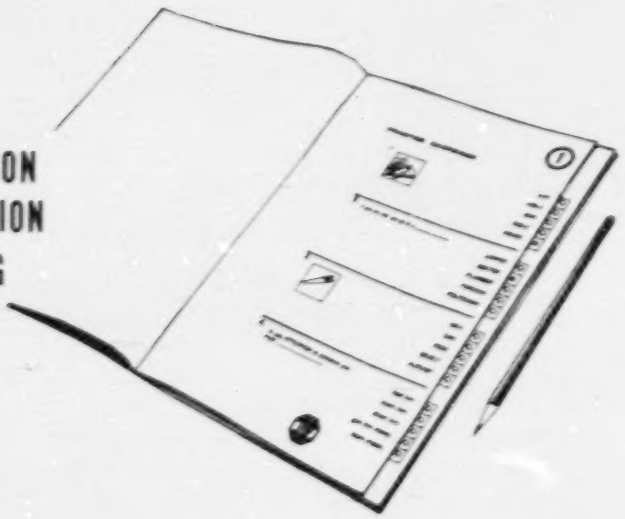
SKILL ACQUIRED FROM EDUCATION, TRAINING, OR EXPERIENCE

# KINDS OF PROFICIENCY TESTS

## 1 CLERICAL SKILLS TESTS

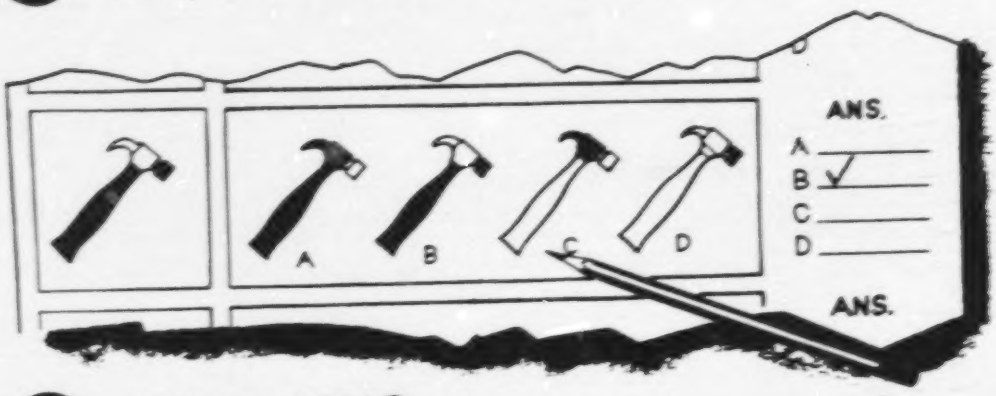
## 2 BOLT

- READING VOCABULARY
- READING COMPREHENSION
- ARITHMETIC COMPUTATION
- ARITHMETIC REASONING

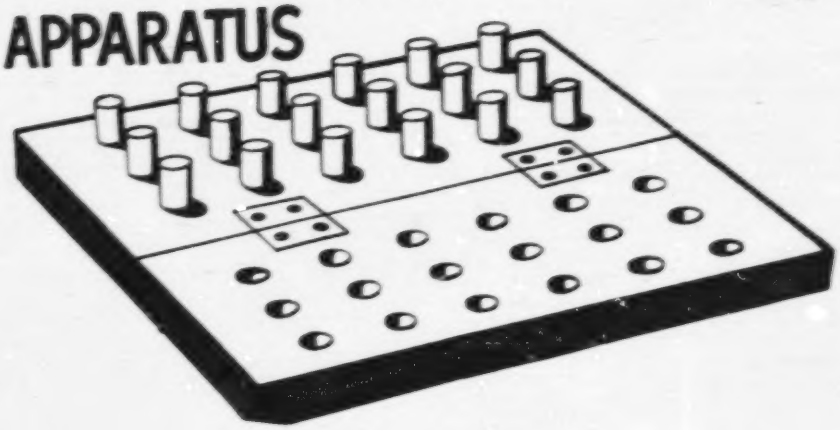


# KINDS OF APTITUDE TESTS

## ① PAPER-AND-PENCIL




## ② APPARATUS



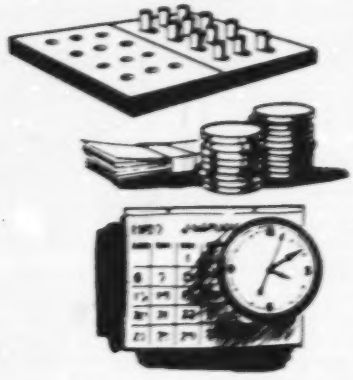
APTITUDE TESTS IN COMBINATION ARE CALLED APTITUDE TEST BATTERIES (B)

# ADVANTAGES OF E.S. TESTS

## EASY TO

1. ADMINISTER
2. SCORE
3. INTERPRET

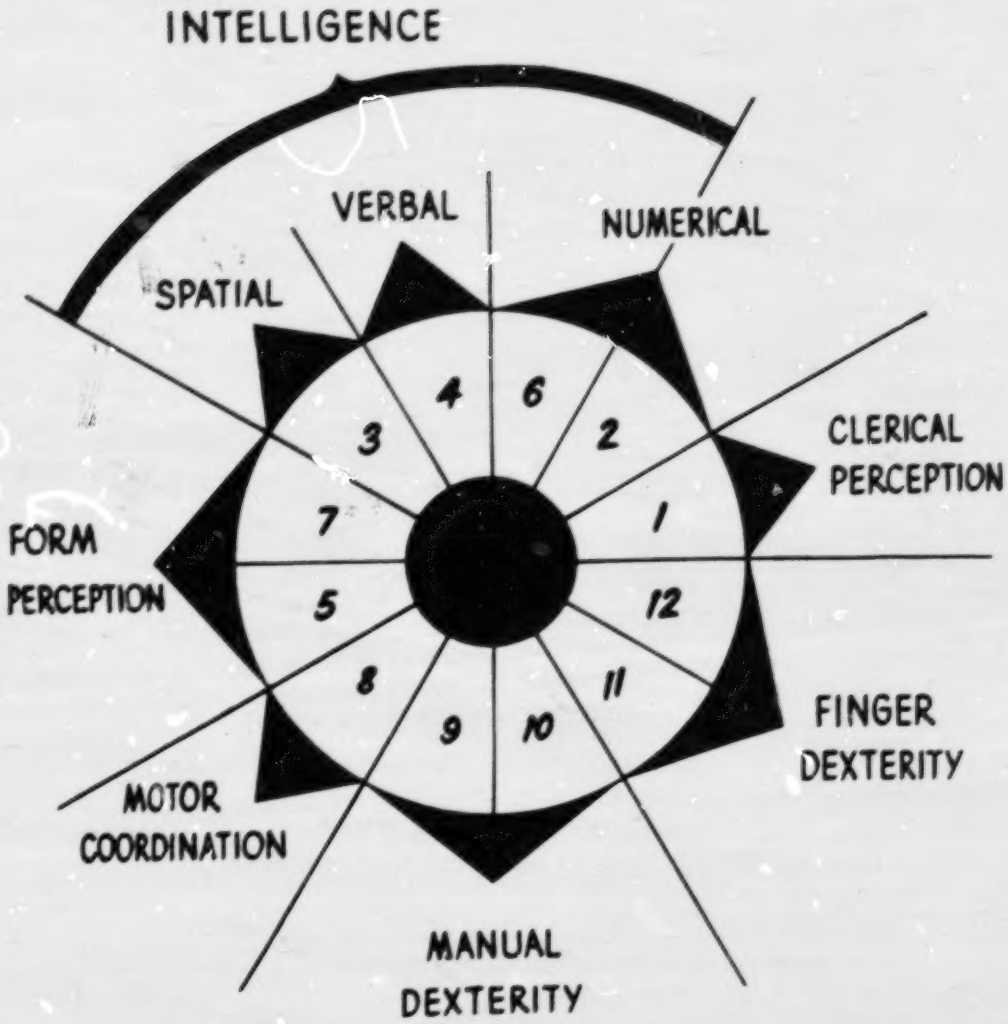
## REQUIRE LITTLE



1. APPARATUS
2. EXPENSE
3. TIME

## PROVEN RELATIONSHIP TO OCCUPATIONAL SUCCESS

# USES GENERAL APTITUDE TEST BATTERY (GATB)



APTITUDES MEASURED BY THE 14 TESTS OF THE
NONREADING APTITUDE TEST BATTERY (NATB)

| Tests | Aptitudes | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | G | V | N | S | P | Q | K | F | M |
| A Picture Word Matching | x | x | | | | | | | |
| B Oral Vocabulary | x | x | x | | | | | | |
| C Coin Matching | | | x | | | | | | |
| D Design Completion | x | | x | | | | | | |
| E Tool Matching | | | | | x | | | | |
| F 3-Dimensional Space | x | | | x | | | | | |
| G Form Matching | | | | | x | | | | |
| H Coin Series | | | x | | | | | | |
| I Name Comparison | | | | | | x | | | |
| *8 Mark Making | | | | | | | x | | |
| *9 Place (pegs) | | | | | | | | | x |
| *10 Turn (pegs) | | | | | | | | | x |
| *11 Assemble | | | | | | | | x | |
| *12 Disassemble | | | | | | | | x | |

*Tests taken from the GATB

| | | | |
|---|---|---|---|
| **ADMIT** | NAME | SEX | Age 40 to 64 ☐ |
| | ADDRESS | CLASSIFICATION | |
| **TO** | TESTING UNIT *(Address)* | | |
| | DATE | TIME | |
| **TESTS** | ☐ TYPING ☐ Manual ☐ Electric ☐ Statistical<br>☐ DICTATION ☐ 60 wpm ☐ 80 wpm ☐ 100 wpm<br>☐ SPELLING ☐ Medical ☐ Legal<br>☐ GATB B-1001 ☐ GATB B-1002 ☐ NATB<br>☐ BOLT ☐ RV _____ ☐ RC _____ ☐ AC _____ ☐ AR _____<br>FORM ☐ A ☐ B ☐ C ☐ D | | |
| SATB'S *(GATB tests)* | | SATB'S *(NATB tests)* | |
| OTHER TESTS | | | |
| FROM | | DATE | |

**TEST APPOINTMENT FORM**

U.S. DEPARTMENT OF LABOR
Manpower Administration

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 - Price $1.80 per pad
Stock Number 2800-0140

MA 7-39
R-Sep, 1971

COMMENTS

| Test | Date | Form | Speed | Speed Grade | Errors | Accuracy Grade |
|---|---|---|---|---|---|---|
| TYPING ☐ Manual ☐ Electric | | | wpm | | | |
| DICTATION | | | wpm | | | |
| SPELLING ☐General ☐Medical ☐Legal | | | | | | |
| STATISTICAL TYPING | | | | | | |

OTHER TESTS

| BOLT READING | | | | BOLT ARITHMETIC | | | |
|---|---|---|---|---|---|---|---|
| DATE | FORM | STD SCORE | G E D | DATE | FORM | STD SCORE | G E D |
| | | | | | | | |
| | | | | | | | |

INDIVIDUAL APTITUDE PROFILE

| ☐ GATB ☐ NATB Form..... | Aptitudes | G | V | N | S | P | Q | K | F | M |
|---|---|---|---|---|---|---|---|---|---|---|
| | Scores | | | | | | | | | |
| | 1 SEm | 6 (7) | 6 | 6 (9) | 8 | 9 | 9 | 7 | 12 | 11 |
| Aptitude Score + 1 SEm | | | | | | | | | | |

*NOTE: Numbers in parentheses are for NATB.*

TEST RESULTS

| OAP NUMBERS* | | | | S* |
|---|---|---|---|---|
| All H's | 23 | 46 | | |
| | 12 | 35 | 58 | |
| 1 | 24 | 47 | | |
| | 13 | 36 | 59 | |
| 2 | 25 | 48 | | |
| | 14 | 37 | 60 | |
| 3 | 26 | 49 | | |
| | 15 | 38 | 61 | |
| 4 | 27 | 50 | | |
| | 16 | 39 | 62 | |
| 5 | 28 | 51 | | |
| | 17 | 40 | | |
| 6 | 29 | 52 | | |
| | 18 | 41 | | |
| 7 | 30 | 53 | | |
| | 19 | 42 | | |
| 8 | 31 | 54 | | |
| | 20 | 43 | | |
| 9 | 32 | 55 | | |
| | 21 | 44 | | |
| 10 | 33 | 56 | | |
| | 22 | 45 | | |
| 11 | 34 | 57 | | |

*Circle number or "All H's" in red for Grade H. Circle number in black for Grade M. Cross out number for Grade L.

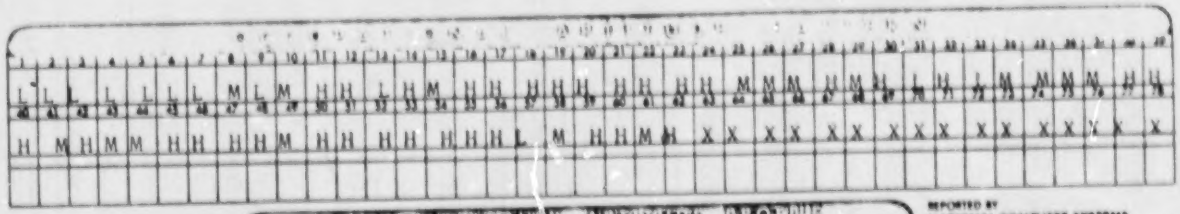
GPO: 1971 O—447-982

| SUBJECT NAME | F | 03 - 25 - 70 | 12 | 18 : 05 | MINNEAPOLIS MINN | A | 12 |
|---|---|---|---|---|---|---|---|
| NAME | SEX | MO. DAY YR. TEST DATE | TEST LEVEL | YRS. MOS. AGE | TEST CENTER | FORM | NORM |

SOCIAL SECURITY NUMBER (OR OTHER IDENTIFYING NO.) | YRS. | MOS. JOB EXP.

ADDRESS: _____

COMMENTS: _____



* APTITUDE SCORE INVALID DUE TO "0" RAW SCORE

GATB INDIVIDUAL APTITUDE PROFILE

| | G | V | N | S | P | Q | K | F | M |
|---|---|---|---|---|---|---|---|---|---|
| APTITUDE SCORE | 101 | 98 | 107 | 91 | 87 | 100 | 87 | 114 | 112 |
| APTITUDE SCORE + 100 | 107 | 104 | 113 | 99 | 96 | 109 | 94 | 126 | 123 |

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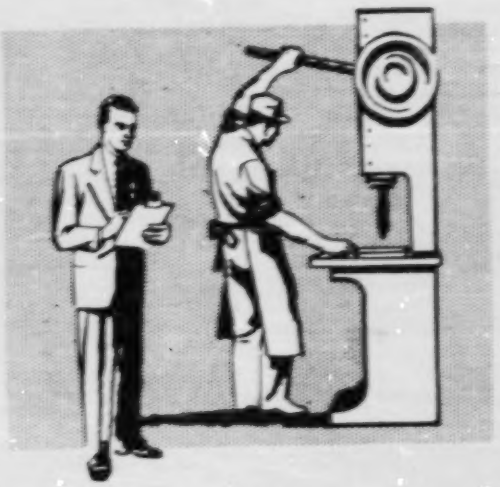
057 140585

# STEPS in DEVELOPMENT of APTITUDE TEST BATTERIES

## JOB ANALYSIS

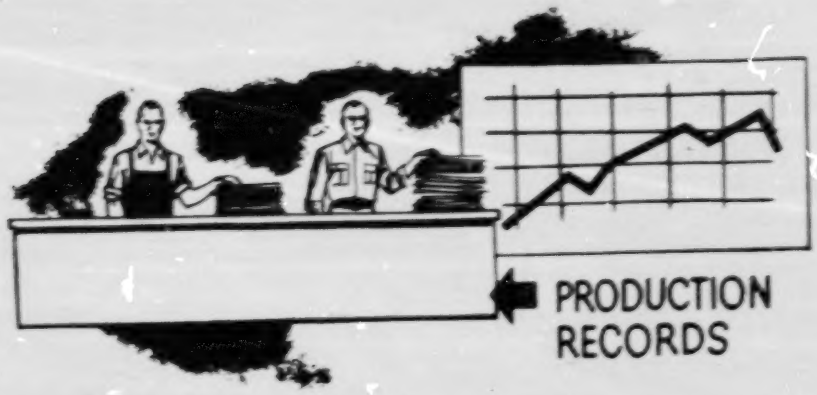
OBSERVATION INTERVIEW



* JOB DUTIES
* SKILLS
* KNOWLEDGES
* ABILITIES
* TRAINING TIME

# STEPS in DEVELOPMENT of APTITUDE TEST BATTERIES

## SELECTION OF CRITERION *



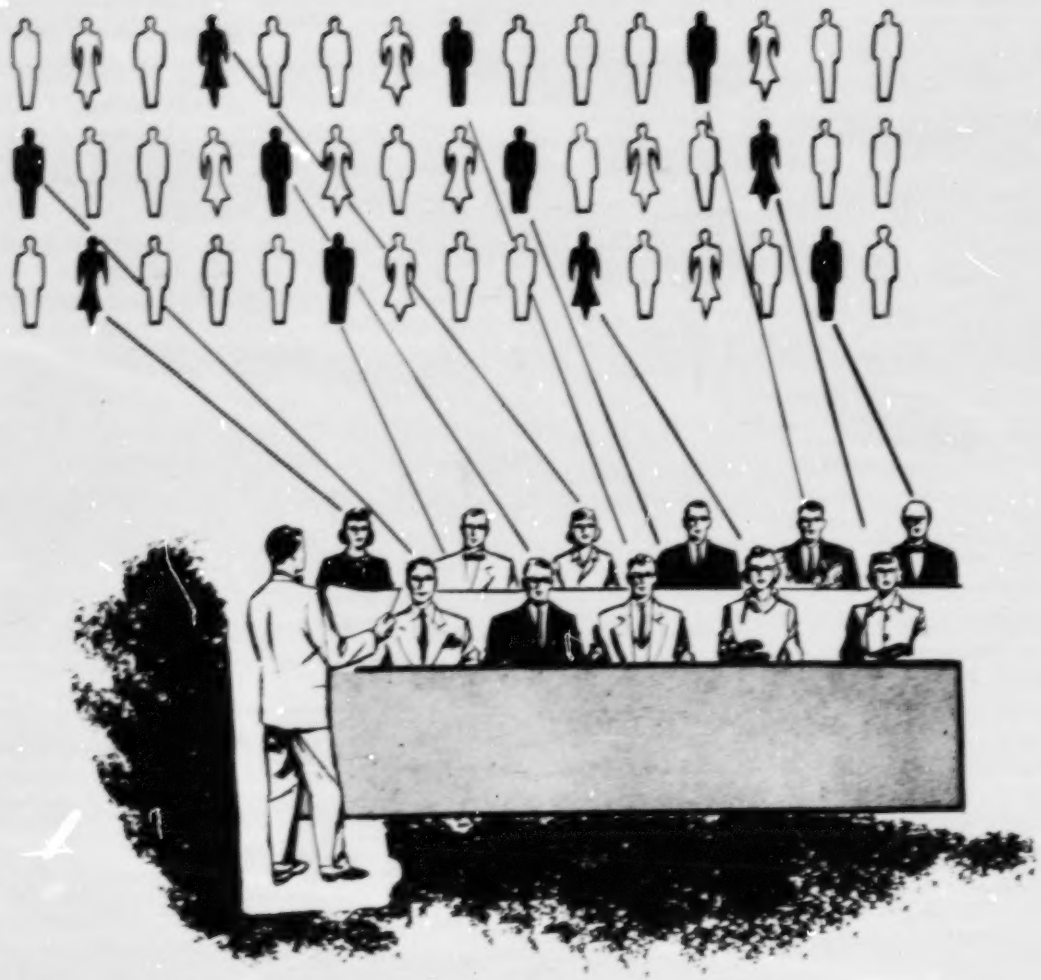

SUPERVISOR'S RATINGS

| RATING | | |
|---|---|---|
| BEST THIRD | MIDDLE THIRD | LOWEST THIRD |
| Doaks | Jones | Murray |
| Brown | Williams | Smith |
| Walker | Turner | James |
| Meade | Sloan | Carey |

* CRITERION = STANDARD OF JOB PROFICIENCY

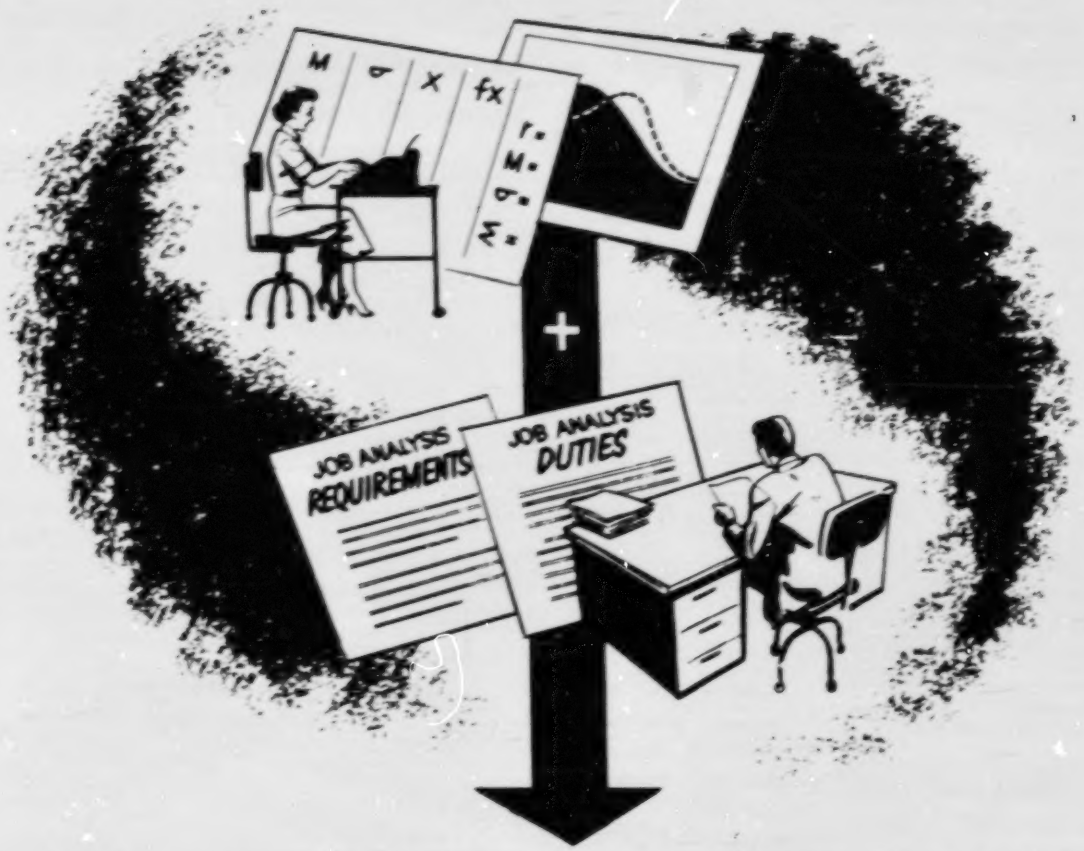
# STEPS in DEVELOPMENT of APTITUDE TEST BATTERIES

## ADMINISTRATION OF TESTS TO EXPERIMENTAL SAMPLE



# STEPS in DEVELOPMENT of APTITUDE TEST BATTERIES

## STATISTICAL - ANALYTICAL TREATMENT




YIELD TESTS WHICH BEST PREDICT ABILITY TO DO THE JOB

## VALIDITY

SP-1

## REQUIREMENTS FOR A TEST DEVELOPMENT STUDY

*Sample:* A group of more than 50 workers all performing the same job, and all of whom have completed the training period, should be available to serve as an experimental sample. When the circumstances make it impossible to obtain a sample of 50 or more workers, it is permissible to conduct a study on a sample of fewer than 50 but *no less than 30* workers. All workers in the group should have had at least a sixth grade education in schools in the United States or the equivalent and be at least 16 years of age. Only workers without defects of hearing, vision or impairment of the use of fingers, hands or arms should be included in the sample, because such factors tend to invalidate test results for research purposes. Individuals who do not meet the criteria specified above cannot be considered as part of the group to be tested for test development purposes.

*Job Analysis:* Job analysis data which provide a thorough identification and description of pertinent aspects of the job should be obtained. If a *Dictionary of Occupational Titles* classification exists for the job, it should be specified. A job summary and a "Work Performed" should be prepared to describe the job duties. It is important to make certain that the training time for the job is specified. Information on the GATB aptitudes that appear to be significant for performance of the job duties should also be included, and statements specifying the tasks for which the aptitudes are significant should be made.

*Measures of Job Performance:* In order to compare performance on the test with performance on the job, it is necessary to have a valid measure of each worker's ability to perform the job duties. Production records or piece rate earnings, if they are comparable for all individuals in the group, very often serve this purpose. Production records or similar data can be considered comparable for all individuals in the group only when the production of each worker will be determined primarily by his own ability to perform the job. If a worker has to wait for materials, or if he works as part of a team of workers and his rate of production is determined by the team rather than by his own ability, the production records will not be suitable for test development purposes. Ratings of the workers by their supervisor can be used as a measure of job performance in addition to or in the absence of some form of production records. When such ratings are made, it is necessary to insure that they will reflect only each worker's ability to perform the job in terms of quality and/or quantity of work and will not be influenced by such factors as personality, cooperativeness and length of time on the job.

*Personnel Data:* Information on the age, minority group status, education, cultural exposure and length of experience on the job for each worker in the sample group must be obtained.

*Selection Techniques:* The procedures used by the company in hiring employees sometimes have an effect upon the test results obtained when a research study is conducted. Therefore, it is necessary to know the company's hiring policies with respect to educational requirements, age requirements, and other selection factors. It is especially important to know if any tests have been used in the selection of the workers included in the sample group. If tests have been used, the tests should be identified, the norms or minimum scores used as a basis for screening should be specified, and the approximate percentage of applicants that have not been hired because they failed to make qualifying scores on the tests should be indicated.

*Time:* Approximately two and one-half hours must be allowed for testing the group of workers. Workers are usually tested on the employer's time. In addition, time must be allowed for conferring with supervisors or foremen to provide them with information concerning how measures of job performance are to be obtained, as well as the time needed for performing all activities necessary to obtain the measures of job performance. A certain amount of time will also be needed to obtain personnel data on each worker, job analysis data, and information on the selection procedures used by the company.

*Testing Facilities:* A well lighted and properly ventilated room, with tables, chairs and adequate space for testing is required. Chairs with side-arm desks attached are not suitable. It is desirable for this room to have sufficient space for testing approximately 10 to 25 workers at the same time. Preferably this room should have no telephone, be situated so that there will be no distracting noises, and permit the testing session to be conducted without interruption.

*Confidentiality of Test Results:* The test results of the employed workers in the experimental sample will *not* be made available to any employer.

*Use of Test Battery When Developed:* Aptitude test batteries developed by the Employment Service cannot be released to employers for their own use. Instead the test batteries are made available for national use in the operating offices of the State Employment Services. Thus any organization can request test-selected applicants from one of these offices.

## GRADING SYSTEM

An examinee's raw scores on USES clerical skills tests are not meaningful until they are compared with some reference group. The reference (or normative) group for each test is a national sample of workers employed in the occupations in which the skill which the test was designed to measure is most important.

An examinee's raw test score is converted to a grade in order to compare his performance with the norms. The grade may range from a low of 1 to a high of 10. The grades were established as follows: The distribution of raw scores of the employed worker normative sample was divided into 10 segments each containing 10 percent of the scores. The highest 10 percent of the scores were assigned the grade of "10", the second highest 10 percent of the scores were assigned the grade of "9", and so on, in turn, down to the lowest scoring 10 percent of the scores which were assigned the grade of "1".

The following table illustrates the grading system in terms of the centile ranks corresponding to each grade.

| Grade | Centile Rank Equivalent |
|---|---|
| 10 | 90 - 99 |
| 9 | 80 - 89 |
| 8 | 70 - 79 |
| 7 | 60 - 69 |
| 6 | 50 - 59 |
| 5 | 40 - 49 |
| 4 | 30 - 39 |
| 3 | 20 - 29 |
| 2 | 10 - 19 |
| 1 | 1 - 9 |

The simplest way of describing the meaning of an individual's grade is in terms of the centile rank to which it corresponds. For example, an examinee who obtains a grade of 7 would be ranked among the upper 40 percent of employed workers in the skill tested. Expressed in another way, his performance exceeds the performance of more than 60 percent of workers.

REVIEW

I

Directions. Mark T or F in front of each numbered statement to indicate whether it is true or false. Be prepared to give the reason for each false statement.

( ) 1. Experience has shown that where appropriate tests are used, applicants selected with the help of tests tend to be better workers and have less turnover than workers not so selected.

( ) 2. A person who excels in one subject or occupation usually excels in all.

( ) 3. The USES Interest Check List is not scored. Hence, it us really not a test but an interviewing aid for the use of the counselor.

( ) 4. Aptitude tests are used to measure the skills of experienced applicants.

( ) 5. The USES has made a blanket authorization for all local offices to use the Kuder Preference Record if they desire.

( ) 6. The main advantage of ES tests is that their relationship to occupational success has been established. Therefore, they can be used with some assurance that the results have significance in terms of occupations.

( ) 7. When a suitable test is available, selection may be properly made on the basis of test results, disregarding other factors.

( ) 8. B-1002 is the original edition of the GATB, in which the answers are written in the test booklets.

( ) 9. The NATB profile may be scored against the SATB's as well as the OAP's.

( ) 10. It is permissible at the time of referral to notify an employer by phone or letter of the different occupations within his plant for which the applicant was tested and met the aptitude requirements.

( ) 11. Through the cooperation of State agencies and the MA national office, continuing research is going on to increase the occupational coverage of present tests and to develop new assessment tools.

( ) 12. If an employer wants to hire an experienced worker who needs little or no training, aptitude test results will be helpful in making the selection.

( ) 13. The timing of USES tests is not critical as long as the examinee is allowed enough time. It does not matter if he is given a few extra seconds.

( ) 14. If an SATB is being considered as an aid to selection, the interviewer should compare the job duties of the employer's job with with the job description of the job for which the test was developed to determine if they are sufficiently similar.

( ) 15. While historically specific aptitude test batteries were developed before the GATB, all present SATB's are now made up of two or more parts of the GATB. Consequently, there are no separate SATB test booklets.

( ) 16. While the OAP's were designed primarily for counseling, they are also recommended for use in selection whenever there is no appropriate SATB.

( ) 17. When an applicant is retested, an alternate form of the test should be used, if available, to reduce the practice effect.

( ) 18. In a test development study, a sample of at least 100 workers doing the same job is necessary.

( ) 19. Typing test norms are the same regardless of whether an electric or manual typewriter is used.

( ) 20. A numerical grade of 10 on a dictation test means that the examinee takes dictation only as well as the lower 10 percent of workers in this occupation.

( ) 21. An individual who does poorly on the USES typing or dictation test because of lack of recent practice may be encouraged to gain additional training or practice and be scheduled for a retest at a later date.

( ) 22. Results of typing, dictation, and spelling tests may be given to employers if they specifically request this information.

( ) 23. There should ordinarily be no need for retesting with the spelling test, since spelling skill is not affected by short term practice or experience.

( ) 24. Following testing, the testing unit forwards the Test Record Card to the interviewer or counselor who made the referral.

( ) 25. At the discretion of the State agency and upon approval of the Regional Manpower Administrator, USES clerical skills tests may be released to an employer.

II

Directions. Check the best answer for each numbered item.

1. The way in which many traits and skills are distributed in the general working population is called the:

   ( ) a. Individual aptitude profile
   ( ) b. Standard error of measurement
   ( ) c. Curve of normal distribution
   ( ) d. Occupational aptitude patterns

2. The USES Pretesting Orientation Exercises are designed to:

   ( ) a. Determine whether an applicant's educational level is sufficient for taking the GATB
   ( ) b. Be used in place of aptitude tests
   ( ) c. Determine applicant's vocational interests
   ( ) d. Allay fears of applicants who are unfamiliar with tests by giving them similar practice material

3. An advantage of USES aptitude tests is that they:

   ( ) a. Guarantee job success for applicants who meet the test norms
   ( ) b. Compare an applicant's performance on the test with that of employed workers in a given occupation
   ( ) c. Mechanize selection for work or training
   ( ) d. Substitute for the employment interview

4. Which of the following is true of the BOLT?

   ( ) a. Uses some individual parts of the GATB.
   ( ) b. Measures the same aptitudes as the GATB.
   ( ) c. Measures an applicant's potential ability to learn a specific job.
   ( ) d. An achievement test for measuring reading and arithmetic skills

5. If aptitude tests are being considered for use in selecting applicants to fill an employer's job order, it is important to:

( ) a. Test only if employer requests it
( ) b. Make sure applicant first meets employer's other specifications
( ) c. Test only experienced applicants
( ) d. Test only if employer gives his consent

6. Aptitude G (general learning ability) is a combination of the following aptitudes:

( ) a. Verbal, numerical, and spatial
( ) b. Clerical, spatial, and form perception
( ) c. Finger and manual dexterity
( ) d. Numerical, form perception, and motor coordination

7. The ability to perceive pertinent detail in objects or pictorial material and to make visual comparisons is known as:

( ) a. Spatial aptitude
( ) b. Form perception
( ) c. Motor coordination
( ) d. Clerical perception

8. The degree to which an applicant possesses the aptitudes measured by the GATB is shown by his:

( ) a. Individual aptitude profile
( ) b. General intelligence score
( ) c. Verbal aptitude score
( ) d. Raw score on each part of the test

9. If an SATB number has been circled in red on the back of the Test Appointment Form, this means that the applicant's test scores:

( ) a. Are similar to or below those of workers found to be poor or unsatisfactory in that occupation
( ) b. Lie within the standard error of measurement and, hence, are close to those of workers judged to be successful in that occupation
( ) c. Are exceptionally high
( ) d. Equaled or exceeded the aptitude norms established for that SATB

10. The first step in a test development study is to:

( ) a. Make a job analysis of the occupation to be studied
( ) b. Administer the GATB to a selected sample of workers
( ) c. Select the criterion by which to judge the proficiency of the workers
( ) c. Select the "key aptitudes" involved in the occupation

III

Directions. Give the information called for in the blanks below:

1. USES tests are useful in the local office for three purposes:

_____, _____, _____

2. The GATB has two major uses: in _____ and as an _____ for use in _____.

3. The apparatus tests of the GATB measure _____ and _____.

4. There are several hundred SATB's, which are used primarily as aids in selecting applicants for referral to _____ or _____.

5. USES dictation tests are given at three speeds: _____, _____, and _____ words per minute.

6. In addition to a general spelling test, there are two special types of USES tests for _____ and _____ spelling.

7. Clerical skills tests are commonly called _____ tests.

8. When in doubt whether to administer the GATB or the NATB to a particular applicant, the counselor resolves this question by the use of the _____.

9. An optional method of reporting SATB results to employers is by the use of the _____.

10. An exception to the general rule that employed workers are not tested for purposes of promotion or transfer is when _____

_____.



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